

CLAIMS

1. A method for centering a liquid drop (2) at a given location of a surface (4), characterized in that it consists of forming at this location a flared hollow (6) such that, at any point (CP1) of the contact limit between the drop
5 and the hollow, said hollow has a curvature smaller than or opposite to that of a circle (TC) tangent to the hollow surface at said point and at a symmetrical point (CP2) of this surface.
2. The method of claim 1, characterized in that the flared hollow (6) has the shape of a truncated cone with an axis
10 perpendicular to said surface.
3. The method of claim 1, characterized in that the flared hollow (6) has the shape of the upper central portion of a torus having an axis perpendicular to the surface.
4. A method for centering a liquid drop (14) on the
15 external surface of a convex surface (16), characterized in that it consists of giving this surface at any point (CP1) of the contact limit with the drop a shape such that this surface has a curvature greater than that of a circle (TC) tangent to this surface at this point and at a symmetrical point (CP2) of this
20 surface.
5. The method of claim 4, characterized in that it consists of forming the convex surface (6) by revolution against said axis of an arc of a circle having a radius smaller than that of said tangent circle.
- 25 6. A variable-focus lens, including:
a wall made of an isolating material (4),
a drop of a first isolating liquid (2) arranged on an area of a first surface of the wall,
a second conductive liquid (8) covering the first
30 surface and the drop, the first and second liquids being non-miscible, having different optical indexes and substantially the same density, and

means (12) for applying an electric voltage (V) between the conductive liquid and an electrode (10) arranged on the second surface of said wall,

characterized in that the drop is placed in a flared
5 hollow (6) of the wall according to the method of claim 1.

7. The variable-focus lens of claim 6, characterized in that:

the electrode (10) is a sheet metal,

the flared hollow (6) is a truncated cone formed by
10 embossing said sheet metal, centered on an axis (O) perpendicular to the first surface, and the bottom of which is pierced with a centered hole (11), and

the isolating material wall (4) is a transparent plastic film flattened against the electrode and the walls of the
15 hollow, and which covers said hole.

8. The variable-focus lens of claim 6, characterized in that:

the electrode (10) is a sheet metal,

the flared hollow (6) is a truncated cone formed by
20 machining said sheet metal, centered on an axis (O) perpendicular to the first surface, and the bottom of which is pierced with a centered hole (11), and

the isolating material wall (4) is a transparent plastic film flattened against the electrode and the walls of the
25 hollow, and which covers said hole.